REMARKS

This application has been carefully reviewed in light of the Office Action dated April 8, 2002 (Paper No. 16). Claims 15, 16, 18 to 23 and 25 to 35 are currently in the application, of which Claims 15, 22, 29 and 35 are the independent claims. Reconsideration and further examination are respectfully requested.

Claims 15, 16, 18 to 23 and 25 to 35 were rejected under § 103(a) over U.S. Patent No. 5,787,288 (Nagata) in view of U.S. Patent No. 6,341,373 (Shaw); Claims 15, 16, 18 to 23 and 25 to 35 were alternatively rejected under § 103(a) over Nagata in view of Shaw and further in view of U.S. Patent No. 5,987,535 (Knodt); and Claims 18 to 20, 25 to 27, 32 and 33 were alternatively rejected under Nagata in view of Shaw and Knodt and further in view of U.S. Patent No. 5,590,373 (Whitley). Applicants have carefully considered the Examiner's remarks and the applied references and respectfully submit that the claims herein are patentably distinguishable over the applied references for at least the following reasons.

The present invention concerns the rewriting of stored control codes used for controlling an image forming apparatus. According to the invention, rewrite execution codes are transferred from an external apparatus under the control of transfer control codes stored in the image forming apparatus. In accordance with the transferred rewrite execution codes, stored control codes are rewritten with new control codes received from the external apparatus.

With reference to particular claim language, independent Claim 15 concerns an image forming apparatus for forming an image in accordance with control codes. The

image forming apparatus includes a first memory medium for storing the control codes to control the image forming apparatus and display means for displaying messages associated with an image forming operation. A second memory medium stores data received from an external apparatus. A third memory medium stores transfer control codes which are adapted to control transfer of rewrite execution codes from the external apparatus, wherein the rewrite execution codes are adapted to execute rewrite of the control codes stored in the first memory medium. Receiving means receives, from the external apparatus, the rewrite execution codes in accordance with the transfer control codes and new control codes. Rewrite means rewrites the control codes, which have been stored in the first memory medium, with the new control codes stored in the second memory medium, in accordance with the rewrite execution codes stored in the second memory medium. The display means displays a message informing of the fact that the image forming apparatus is under download of data into the second memory medium.

Independent Claim 22 concerns a rewrite control method for rewriting control codes, which have been stored in a first memory medium and are adapted to control an image forming apparatus to form an image. Rewrite execution codes, which are adapted to execute rewrite of the control codes stored in the first memory medium, are received from an external apparatus in accordance with transfer control codes. The transfer control codes are adapted to control transfer of the rewrite execution codes from the external apparatus and have been stored in a third memory medium. The received rewrite execution codes are stored in a second memory medium. New control codes are received from the external apparatus and stored in the second memory medium. The control codes, which

have been stored in the first memory medium, are rewritten with the new control codes stored in the second memory medium, in accordance with the rewrite execution codes stored in the second memory medium. A message informing of the fact that the image forming apparatus is under download of data into the second memory medium is displayed.

Independent Claim 29 concerns an image forming apparatus for forming an image in accordance with control codes. The image forming apparatus includes a code memory for storing the control codes which are adapted to control the image forming apparatus. A memory stores transfer control codes which are adapted to control transfer of rewrite execution codes from an external apparatus, wherein the rewrite exaction codes are adapted to execute rewrite of the control codes. A processor controls the image forming apparatus in accordance with the control codes stored in the code memory. The processor controls transfer of the rewrite execution codes from the external apparatus in accordance with the transfer control codes stored in the memory. The processor controls transfer of new control codes from the external apparatus and controls rewriting the control codes, which have been stored in the code memory, with the new control codes transferred from the external apparatus in accordance with the rewrite execution codes transferred from the external apparatus.

Independent Claim 35 concerns a rewrite control method for rewriting control codes, which have been stored in a code memory and are adapted to control an image forming apparatus to form an image. Transfer of rewrite execution codes, which are adapted to execute rewrite of the control codes, from an external apparatus is controlled in accordance with transfer control codes which have been stored in a memory and are

adapted to control transfer of the rewrite execution codes from the external apparatus. Transfer of new control codes from the external apparatus is also controlled. Rewriting the control codes, which have been stored in the code memory, with the new control codes transferred from the external apparatus is controlled in accordance with the rewrite execution codes transferred from the external apparatus.

The applied references are not understood to disclose or suggest the foregoing features of the present invention. In particular, the applied references are not understood to disclose or suggest at least the features of transferring rewrite execution codes and new control codes from an external apparatus and rewriting stored control codes with the new control codes in accordance with the transferred rewrite execution codes.

Nagata concerns a facsimile machine in which a control program for executing functions performed by the facsimile machine can be renewed with a control program received from a central station. However, Nagata is understood to disclose the renewal of the control program being performed by a program renew utility that is stored in the facsimile machine rather than by a program renew utility that is transferred from the central station. The Office Action contends that column 8, lines 41 to 48, of Nagata, discloses the transfer of both the renew utility and the control program from the central station and the renewal of the stored control program with transferred control program. While Nagata is understood to disclose the transfer of both a renew utility and a control program from the central station, Applicants understand Nagata to disclose that the received control program and the receive renew utility are stored in the facsimile machine using a renew utility already existing in the facsimile machine and not the renew utility

transferred from the central station with the control program. Therefore, Nagata is not understood to disclose or suggest at least the features of transferring rewrite execution codes and new control codes from an external apparatus and rewriting stored control codes with the new control codes in accordance with the transferred rewrite execution codes.

Shaw is not understood to disclose or suggest anything to remedy the foregoing deficiencies of Nagata. Shaw concerns a system that provides for the secure downloading, recovery and upgrading of data. According to Shaw, downloader code controls the connection to a remote server, through which updated code is received from the server and used to upgrade exiting code. However, the downloader code of Shaw is understood to be stored within a permanent memory of the device being updated and is not understood to be received from the remote server. Therefore, Shaw, either alone or in combination with Nagata, is not understood to disclose or suggest at least the features of transferring rewrite execution codes and new control codes from an external apparatus and rewriting stored control codes with the new control codes in accordance with the transferred rewrite execution codes.

Knodt was cited in the Office Action for its disclosure of a user interface which displays immediate status and capabilities of an imaging system. However, Knodt is not understood to remedy the foregoing deficiencies of Nagata and Shaw. Specifically, Knodt, either alone or in combination with Nagata and Shaw, is not understood to disclose or suggest at least the features of transferring rewrite execution codes and new control codes from an external apparatus and rewriting stored control codes with the new control codes in accordance with the transferred rewrite execution codes.

Whitley was applied in the rejection of certain dependent claims and concerns a tool for updating computer programs stored in a device. Specifically, Whitley was cited for its disclosure of the use of address information when updating programs as well as switching between standard operation and an update operation. However, Whitley is not understood to disclose or suggest at least the features of transferring rewrite execution codes and new control codes from an external apparatus and rewriting stored control codes with the new control codes in accordance with the transferred rewrite execution codes.

Accordingly, independent Claims 15, 22, 29 and 35 are believed to be allowable over the applied references. Reconsideration and withdrawal of the § 103(a) rejections of Claims 15, 22, 29 and 25 are respectfully requested.

The other claims in the application are dependent from the independent claims discussed above and are therefore believed to be allowable over the applied references for at least the same reasons. Because each dependent claim is deemed to define an additional aspect of invention, the individual consideration of each on its own merits is respectfully requested.

In view of the foregoing amendment and remarks, the entire application is believed to be in condition for allowance and such action is respectfully requested at the Examiner's earliest convenience.

Applicants' undersigned attorney may be reached in our Costa Mesa, California, office by telephone at (714) 540-8700. All correspondence should be directed to our address given below.

Respectfully submitted,

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VERSION WITH MARKINGS TO SHOW CHANGES MADE TO CLAIMS

15. (Three Times Amended) An image forming apparatus for forming an image in accordance with control codes, said image forming apparatus comprising:

a first memory medium for storing the control codes to control said image forming apparatus;

display means for displaying messages associated with an image forming operation;

[receive means for receiving data from an external apparatus;]

a second memory medium for storing [the] data received [by said receive means] from an external apparatus;

a third memory medium for storing transfer control codes which are adapted to control transfer of rewrite execution codes from the external apparatus, wherein the rewrite execution codes are adapted to execute rewrite of the control codes stored in said first memory medium;

receiving means for receiving, from the external apparatus, the rewrite execution codes in accordance with the transfer control codes and new control codes; and

rewrite means for rewriting the control codes, which have been stored in said first memory medium, with the new control codes stored in said second memory medium, in accordance with the rewrite execution codes stored in said second memory medium,

wherein[, when] said display means displays a message informing of the fact that the image forming apparatus is under download of data into said second memory medium[, said receive means receives rewrite execution codes from the external apparatus in accordance with the transfer control codes stored in said third memory medium, the received rewrite execution codes are stored in said second memory medium, said receive means receives control codes from the external apparatus, the received control codes are stored in said second memory medium, and said rewrite means rewrites the control codes, which have been stored in said first memory medium, with the control codes stored in said second memory medium in accordance with the rewrite execution codes stored in said second memory medium].

19. (Twice Amended) The image forming apparatus according to Claim 15, further comprising:

image forming control means for controlling an image forming process in accordance with the control codes;[,] and

switching means for exclusively changing over whether the image forming process is executed by said image forming control means or rewrite of the control codes is executed by said rewrite means.

22. (Three Times Amended) A rewrite control method for [an image forming apparatus forming an image in accordance with] rewriting control codes, which have been stored in a first memory medium and are adapted to control an image forming apparatus to form an image, said rewrite control method comprising:

a first receiving step of receiving rewrite execution codes, which are adapted to execute rewrite of the control codes stored in the first memory medium, from an external apparatus in accordance with transfer control codes, wherein the transfer control codes are adapted to control transfer of the rewrite execution codes from the external apparatus and have been stored in a third memory medium;

a first storing step of storing the received rewrite execution codes in a second memory medium;

a second receiving step of receiving new control codes from the external apparatus;

a second storing step of storing the received new control codes in the second memory medium;

a rewriting step of rewriting the control codes, which have been stored in the first memory medium, with the new control codes stored in the second memory medium, in accordance with the rewrite execution codes stored in [said] the second memory medium; and

a displaying step of displaying a message informing of the fact that the image forming apparatus is under download of data into the second memory medium.

23. (Twice Amended) The rewrite control method [for the image forming apparatus] according to Claim 22, further comprising a transfer step of transferring the rewrite execution codes from the second memory medium to a nonvolatile memory medium as the first memory medium.

25. (Twice Amended) The rewrite control method [for the image forming apparatus] according to Claim 22, wherein the rewrite execution codes include address information of the first memory medium for executing rewrite of the control codes, and the rewrite of the control codes is executed in accordance with the address information.

26. (Twice Amended) The rewrite control method [for the image forming apparatus] according to Claim 22, further comprising:

an image forming control step of controlling an image forming process in accordance with the control codes;[,] and

a switching step of exclusively changing over whether the image forming process is executed [by] in said image forming control step or rewrite of the control codes is executed [by] in said rewriting step.

27. (Twice Amended) The rewrite control method [for the image forming apparatus] according to Claim 26, wherein said switching step exclusively changes over using a predetermined switch whether the image forming process is executed [by] in said image forming control step or the rewrite of the control codes is executed [by] in said rewriting step.

28. (Twice Amended) The rewrite control method [for the image forming apparatus] according to Claim 26, wherein said switching step exclusively changes over in accordance with a predetermined command transmitted from said external apparatus whether the image forming process is executed [by] in said image forming control step or the rewrite of the control codes is executed [by] in said rewriting step.

29. (Amended) An image forming apparatus for forming an image in accordance with control codes, said image forming apparatus comprising:

a code memory for storing the control codes which are adapted to control the image forming apparatus;

a memory for storing transfer control codes which are adapted to control transfer of rewrite execution codes from an external apparatus, wherein the rewrite exaction codes are adapted to execute rewrite of the control codes; and

a processor for controlling the image forming apparatus in accordance with the control codes stored in said code memory,

wherein said processor controls transfer of the rewrite execution codes from the external apparatus in accordance with the transfer control codes stored in said memory, said processor controls transfer of new control codes from the external apparatus, and said processor controls rewriting the control codes, which have been stored in said code memory, with the new control codes transferred from the external apparatus in accordance with the rewrite execution codes transferred from the external apparatus.

35. (Amended) A rewrite control method for [an image forming apparatus forming an image in accordance with] rewriting control codes, which have been stored in a code memory and are adapted to control an image forming apparatus to form an image, said rewrite control method comprising:

a first control step of controlling transfer of rewrite execution codes, which are adapted to execute rewrite of the control codes, from an external apparatus in accordance with transfer control codes which have been stored in a memory and are adapted to control transfer of the rewrite execution codes from the external apparatus;

a second control step of controlling transfer of new control codes from the external apparatus; and

a third control step of controlling rewriting the control codes, which have been stored in [said] the code memory, with the new control codes transferred from the external apparatus in accordance with the rewrite execution codes transferred from the external apparatus.